

WHAT IS CLAIMED IS:

1. A nitrogen oxide reducing system for a diesel engine comprising:

5 a mixer provided in an induction passage of the diesel engine; and

a nitrogen gas generating device supplying a pressurized nitrogen gas of more than or equal to a predetermined concentration in a predetermined amount
10 relative to an intake air flow rate.

2. A nitrogen oxide reducing system for a diesel engine as claimed in claim 1, wherein said nitrogen gas generating device is a nitrogen gas cylinder filled with nitrogen gas
15 at a predetermined pressure or a psa type nitrogen gas generator.

3. A nitrogen oxide reducing system for a diesel engine as claimed in claim 1, wherein said nitrogen gas generating device includes a compressor for compressing air, a first pressure accumulation tank, accumulating compressed air at a predetermined pressure, and a nitrogen gas generator having a membrane unit having a plurality of hollow fiber membranes for selectively transmitting oxygen from the
25 compressed air supplied from said first pressure accumulation tank for separation to discharge a nitrogen gas of greater than or equal to a predetermined

concentration.

4. A nitrogen oxide reducing system for a diesel engine as claimed in claim 3, wherein said nitrogen gas generating device includes a check valve at a position upstream of said first pressure accumulation tank and an on-off valve positioned between said first pressure accumulation tank and said nitrogen gas generator.

10 5. A nitrogen oxide reducing system for a diesel engine as claimed in claim 3 or 4, wherein said nitrogen gas generator has a pressure and flow rate adjusting means for adjusting a pressure and flow rate of said nitrogen gas to be discharged, on an outlet side downstream of said 15 membrane unit.

6. A nitrogen oxide reducing system for a diesel engine as claimed in claim 3 or 4, wherein said nitrogen gas generating device further includes a pressure reduction 20 valve at a position downstream of said nitrogen gas generator.

7. A nitrogen oxide reducing system for a diesel engine as claimed in claim 3 or 4, wherein said nitrogen gas 25 generating device further includes a second pressure accumulation tank for accumulating the nitrogen gas supplied from said nitrogen gas generator at a given

pressure, and a pressure reduction valve located downstream of said second pressure accumulation tank.

8. A nitrogen oxide reducing system for a diesel engine
5 as claimed in claim 7, wherein said nitrogen gas generating device has a check valve between said nitrogen gas generator and said second pressure accumulation tank and an on-off valve between said pressure reduction valve and said mixer.

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9. A nitrogen oxide reducing system for a diesel engine as claimed in claim any one of 1 to 4, further comprising a flow rate control valve between said nitrogen gas generator and said mixer

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10. A nitrogen oxide reducing system for a diesel engine as claimed in claim 3 or 4, further comprising a black smoke reducing device in an exhaust passage, and wherein to said black smoke reducing device, separated oxygen is supplied
20 from said nitrogen gas generator of said nitrogen gas generating device.

11. A nitrogen gas generating device comprising:
a compressor for compressing air;
25 a first pressure accumulation tank accumulating compressed air at a predetermined pressure; and
a nitrogen gas generator having a membrane unit

having a plurality of hollow fiber membranes for selectively transmitting oxygen from the compressed air supplied from said first pressure accumulation tank for separation to discharge a nitrogen gas of greater than or equal to a predetermined concentration.

12. A nitrogen gas generating device as claimed in claim 11, wherein said nitrogen gas generating device includes a check valve at a position upstream of said first pressure accumulation tank and an on-off valve positioned between said first pressure accumulation tank and said nitrogen gas generator.

13. A nitrogen gas generating device as claimed in claim 11 or 12, wherein said nitrogen gas generator has a pressure and flow rate adjusting means for adjusting a pressure and flow rate of said nitrogen gas to be discharged, at an outlet side downstream of said membrane unit.

20 14. A nitrogen gas generating device as claimed in claim 11 or 12, which further includes a pressure reduction valve at a position downstream of said nitrogen gas generator.

15. A nitrogen gas generating device as claimed in claim 25 11 or 12, further comprising a second pressure accumulation tank for accumulating the nitrogen gas supplied from said nitrogen gas generator at a given

pressure, and a pressure reduction valve located downstream of said second pressure accumulation tank.

16. A nitrogen gas generating device as claimed in claim 15, further comprising:

a check valve between said nitrogen gas generator and said second pressure accumulation tank and an on-off valve downstream of said pressure reduction valve.